



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,906	10/22/2003	Kevin L. Wert	H1799-00200	6571
41396	7590	11/03/2004	EXAMINER	
DUANE MORRIS LLP P. O. BOX 1003 305 NORTH FRONT STREET, 5TH FLOOR HARRISBURG, PA 17108-1003			WALBERG, TERESA J	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/690,906	<b>Applicant(s)</b> WERT, KEVIN L.	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-14 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/7/04</u> . | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to a heat pipe assembly, classified in class 165, subclass 104.26.
  - II. Claims 15-20, drawn to a method of making a heat pipe assembly, classified in class 29, subclass 890.032.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process, such as making separate reservoir and evaporator wicks rather than a combined reservoir and evaporator wick.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Samuel Apicelli on 10/12/04 a provisional election was made with traverse to prosecute the invention of Group 1, claims 1-14. Affirmation of this election must be made by applicant in replying to this

Art Unit: 3742

Office action. Claims 15-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the numerals and lines are blurred. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 and 9, 10, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sievers et al (6,239,350).

Sievers et al discloses a heat pipe assembly (see Fig. 1) having the claimed structure including a combined reservoir and evaporator (38), a condenser (32), and a condensate artery (34) returning condensate to the reservoir (38). The evaporator (38) has a porous wick (indicated by the lead line from numeral 38) with a central passage (shown in Fig. 1), with the wick

Art Unit: 3742

contacting the end of the condensate artery (34) and forming an end of the reservoir.

A hollow tube (the tube shown in Fig. 1 surrounding element 38) is embedded in the evaporator as part of the artery and a passage (inside 38) extends from the tube to the reservoir (26).

8. Claims 1-4, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Maciaszek et al (6,058,711).

Maciaszek et al disclose a heat pipe assembly including a combined reservoir and evaporator (1), a condenser (2) having a condensate artery (10) returning condensate to the reservoir (1), the evaporator having a passage (connected to 10) and a porous wick (12). With respect to claim 7, a thermoelectric cooler (29, in Fig. 6) is connected to the reservoir and the evaporator. With respect to claim 9, the evaporator has a porous with (12) and ducts of a vapor manifold (11) that exhausts to the condenser (2).

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maciaszek et al (6,058,711) in view of Cardenas (6,437,982).

Maciaszek et al discloses a heat pipe assembly having the structure claimed with the exception of a fan supplying supplemental cooling of the reservoir.

Cardenas teaches using a fan for cooling a heat sink. See Fig. 4A, and col. 2, lines 38-43.

It would have been obvious in view of Cardenas to use a fan to cool the reservoir of Maciaszek et al for increased heat removal.

11. Claim 11 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sievers et al (6,239,350).

Sievers et al shows the upper condenser portion (22) as not being integrally formed with the side wall (12). Accordingly, the end currently closed by element (22) is capable of having been initially open and could have been used for evacuating and filling the housing. In the alternative, if portion (22) is considered to be non-separable from side walls (12), it would have been obvious to make the end element (22) separable to enable the necessary evacuating and filling of the heat pipe.

Claim 11 is interpreted to be a product by process claim. As such it is met by any structure that could have been made by the claimed process steps, even if the actual process used to make the structure was different.

Art Unit: 3742

12. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or render obvious the use of a condensate artery coupled to a wick passage extending through an evaporator wick or a condenser having an annular space surrounding the artery such that the annular space collects agglomerated slugs of condensate the bridge across the annular space.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Paine et al, Ghoshal, Harned, Austin et al, Harbaugh, Hall, Lee, and Moore are cited to show heat pipe structure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 703-308-1327. After November 22, 2004, the examiner's telephone number will be 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Teresa J. Walberg  
Primary Examiner  
Art Unit 3742

tjw